IMPACTS OF PARTICULATE MATTER ($PM_{2.5}$) EMITTED FROM BIOMASS BURNING IN THE BRAZILIAN AMAZON REGARDING HOSPITAL ADMISSIONS AND MORTALITY BY CARDIOVASCULAR DISEASES

Eliane Ignotti, *University of State of Mato Grosso and National School of Public Health, Brazil*
Sandra Hacon, *National School of Public Health, Brazil*
Karla Longo, *National Institute of Spatial Research, Brazil*
Saulo Freitas, *National Institute of Spatial Research, Brazil*

Background and aim: Air pollution from biomass burning is an important environmental problem in the Amazon. The aim of this study is to analyze the impacts of exposure of particulate matter emissions from biomass burning in the Brazilian Amazon on hospitalization and mortality by cardiovascular diseases.
Methods: Ecological study using an environmental exposure indicator presented as annual hours percentage (AH%) of $PM_{2.5}$ above 25 • g/m^3. The following outcome variables were considered: rates of hospitalization and mortality due to cardiovascular diseases in elderly. Multiple regressions of outcomes and the predictive variable AH% for $PM_{2.5}$ above 25 µg/m^3 threshold were used. The Human Development Indices (HDI) and average number of blood tests per 100 inhabitants in the Brazilian Amazon region were the control variables.
Results: The association of the exposure indicator (AH%) is significant for the elderly in terms of hospitalization and mortality by cardiovascular diseases (• = 0.01; • = 0,22). For each 1% increase in the exposure indicator there was an increase of 1% in the rate of hospitalization and 22% in the rate of mortality, even controlled by HDI and average number of blood count tests.
Conclusion: The indicator of atmospheric pollution in the Brazilian Amazon region as the annual hour percentage of $PM_{2.5}$ above 25• g/m^3 showed association with the occurrence of cardiovascular diseases in elderly.
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